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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/809,029	03/16/2001	Martin C. Barnardo	1181-251	5589

6449 7590 10/19/2004

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EXAMINER	
COUNTS, GARY W	

ART UNIT	PAPER NUMBER
1641	

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/809,029	BARNARDO ET AL.	
	Examiner	Art Unit	
	Gary W. Counts	1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *12 July 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7, 9-17,20 and 22-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17,20 and 22-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *01/29/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Status of the claims

The amendment filed July 12, 2004 is acknowledged and has been entered.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-7, 14, 15 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Walter et al., (Stimulation of human cytotoxic T cells with HIV-1-derived peptides presented by recombinant HLA-A2 peptide complexes, International Immunology, vol. 9, No. 3, pp. 451-459, 1997).

Walter et al., disclose detecting a monoclonal W6/32 antibodies (specific for HLA-A,B,C (MHC class I molecules). Walter et al disclose that this antibody binds to recombinant HLA-A2 peptide complexes. Walter et al disclose detecting the W6/32 antibodies bound to the A2 complex with goat anti-mouse Ig conjugated to horseradish peroxidase (p. 452). Walter et al disclose that the HLA-A2 molecule is produced in E.Coli (prokaryotic expression system) (p. 451).

With respect to the recitation the presence of one or more specific anti-MHC

antibodies as recited in the instant claims. Since Walter et al disclose detecting W6/32 antibody which is specific for HLA-A,B,C (HLA class I molecules), Walter et al teaches detecting an antibody specific for a specific HLA molecule.

3. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Carosella et al (US 6,528,304).

Carosella et al disclose immunoprecitating an K562-HLA-G2 cell (recombinant HLA) with a monoclonal antibody W6/32 (an antibody against MHC Class I heavy chains (anti HLA-A molecule). Carosella et al disclose detecting the monoclonal antibody with a labeled antibody (col 5, line 66 – col 6 line 25).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-7, 9-17, 20 and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al (US 5,270,169) in view of Walter et al., (Stimulation of human cytotoxic T cells with HIV-1-derived peptides presented by recombinant HLA-A2 peptide complexes, International Immunology, vol. 9, No. 3, pp. 451-459, 1997).

Chang et al disclose detecting the presence of anti-HLA antibodies. Chang et al disclose combining HLA antigens with a biological sample to form a complex (col 2, lines 1-11, col 3, lines 47-64). Chang et al disclose that the HLA antigen may be a synthetic HLA antigen (col 3, lines 60-63). Chang et al disclose attaching the molecules to a solid support such as a microtiter plate, beads or nitrocellulose (col 3, lines 1-19). Chang et al disclose that any convenient, accurate method may be employed for the detection of the surface bound complexes (col 4). Chang et al disclose comprising the reagents and components into a kit (col 5).

Chang et al differ from the instant invention in failing to specifically teach the HLA antigen is a recombinant HLA antigen.

Walter et al., disclose detecting a monoclonal W6/32 antibodies (specific for HLA-A,B,C (MHC class I molecules). Walter et al disclose that this antibody binds to

recombinant HLA-A2 peptide complexes. Walter et al disclose detecting the W6/32 antibodies bound to the A2 complex with goat anti-mouse Ig conjugated to horseradish peroxidase (p. 452). Walter et al disclose that the HLA-A2 molecule is produced in E.Coli (prokaryotic expression system) (p. 451). Walter et al disclose the recombinant molecule can be immobilized and bound by antibody (p. 456, first column, lines 43 – 53).

It would have been obvious to one of ordinary skill in the art to incorporate a recombinant HLA antigen and the corresponding reagents as taught by Walter et al into the method of Chang et al because Chang et al teaches that the HLA antigen can be a synthetic HLA antigen and Walter shows that recombinant HLA antigens can be used to detect antibodies and one of ordinary skill would have a reasonable expectation of success incorporating recombinant HLA antigens as taught by Walter et al into the method of Chang.

8. Claims 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al in view of Walter et al as applied to claims 1-7, 9-17, 20 and 22-24 above, and further in view of Luxembourg et al.

See above for teachings of Chang et al and Walter et al.

Chang et al and Walter et al differ from the instant invention in failing to teach the MHC or HLA molecule is fused to biotin.

Luxembourg et al disclose recombinant MHC molecules which are biotinylated (page 3, paragraph 0018, & page 4, paragraph 0027). Luxembourg et al disclose that these recombinant MHC molecules are biotinlyated to provide attachment to solid

support coated with avidin. Luxemburg et al disclose that the use of this avidin-biotin system provides for the isolation of peptides such as antibodies (p. 5, paragraphs 0030, and 0031).

It would have been obvious to one of ordinary skill in the art to incorporate an avidin-biotin system as taught by Luxembourg et al into the modified method of Chang et al because Luxembourg et al shows that the use of this avidin-biotin system provides for the isolation of peptides such as antibodies. Further, the use of avidin-biotin systems to immobilize and capture reagents is very well known in the art. Therefore, one of ordinary skill in the art would have a reasonable expectation of success incorporating avidin-biotin as taught by Luxembourg et al into the modified method of Chang et al.

Response to Arguments

9. Applicant's arguments filed July 12, 2004 have been fully considered but they are not persuasive.

Applicant argues that the W6/32 antibody disclosed in Carosella et al is not specific for a particular HLA molecule. Applicant provided a copy from Biosciences's website to show that the W6/32 antibody binds to HLA at a non-polymorphic epitope shared amongst product of HLA-A, B and C loci. This is not found persuasive because the claims recite detecting the presence of one or more specific anti-Major Histo-Compatibility complex antibodies. The reference Applicant provided (Bioscience's website) discloses on page 2 that the W6/32 monoclonal antibody reacts with human

major histocompatibility complex (MHC) class I, HLA-A, B, C. By way of Applicant's own disclosure on page 1, lines 25-36. HLA class I molecules are coded for by the A, B, C, E, F and G regions whereas the HLA Class II molecules are coded for by the DR, DQ, DP, DO and DM regions. Therefore, the W6/32 antibody is a specific antibody for MHC class I molecules and not MHC class II molecules. Therefore, Carosella et al teaches detecting an antibody that is specific for a particular MHC molecule.

Conclusion

10. No claims are allowed.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kindsvogel et al. (US 6,060,309) disclose an Elisa assay wherein an recombinant MHC molecule is immobilized to a solid substrate. Kindsvogel et al disclose the use of secondary antibodies to detect primary antibodies bound to the recombinant MHC molecule.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary W. Counts whose telephone number is (571) 2720817. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gary W. Counts
Examiner
Art Unit 1641
October 1, 2004

LONG V. LE
SUPERVISORY PATENT EXAMINER
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10/04/04